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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/502,302

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Aleksandr Ivanovich Andreyko

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EXAMINER

USTARIS, JOSEPH G

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/502,302	Applicant(s) ANDREYKO ET AL.	
	Examiner JOSEPH G. USTARIS	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 7-13 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 July 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/20/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement filed July 20, 2004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Drawings

3. The drawings are objected to because Figs. 1, 5, and 14 have non-English language describing portions of the drawings. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the

several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities: The disclosure discloses on page 51 line 2 recites "Fig. 1514". There is no Fig. 1514.

Appropriate correction is required.

Claim Objections

5. Claims 7-15 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 7-13, 14/5/4,3,2,1, 14/6,7,8,9,10,11,12,13, and 15 have not been further treated on the merits.

6. Claims 1, 3, 5, and 14 are objected to under 37 CFR 1.75.

Claim 1 recites the limitation "the video signal", "the entire video image", "the with one or different quality", "the video signal formation facility", "the screen", "the above

signals", "the function", "the eye resolution" in page 71. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitation "the similar quality level" in page 72. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "the internal boundaries" in page 73. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 recites the limitation "the electron gun", "the facility of sector output control", "the entry", "the sector area", "the other quality level", "the control facility", "the image sector output", "the change of the size", "the luminous spot", "the size corresponding to the size of a pixel" in page 78. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Keeney et al. (US007027655B2).

Regarding claim 1, Keeney et al. (Keeney) discloses a method of interactive television (See Fig. 2) wherein forming the video signal of the entire video image (See Fig. 2, 10) or video signals of video image sectors the with one or different quality levels (See Fig. 2, 10; wherein the motion picture image data have one quality level) in the video signal formation facility (See Fig. 2, e.g. the provider of the original motion picture image data);

converting at least one video signal at least one time in one video signal conversion facility (e.g. a MPEG encoder) into a series of video signals of the video image sectors (e.g. I,P, and B frames) (See col. 1 line 66 – col. 2 line 18 and col. 8 lines 20-28) and/or

converting the level of video image sectors (See col. 1 line 66 – col. 2 line 18; the Q factor level), and/or

changing boundaries of video image (See col. 1 lines 66- col. 2 line 18, defining blocks with higher activity),

transmitting all video signals via data channels (See Fig. 2; col. 8 lines 20-28), at least, to one conversion facility (See Fig. 2, 40) and, at least, to one information display facility (See Fig. 2, 70 and 10'),

forming video image on the screen of the information display facility (See Figs. 1 and 2, 70), which is perceived, at least, by one user (See Fig. 2, 60),

determining characteristics, at least, by one sensor (See Fig. 2, 20) at least for one eye of the user with respect to the video image formed by the information display facility (See col. 6 lines 16-41), and

forming dynamically signals coding characteristics (See Fig. 2, 30; col. 6 lines 16-41, area of interest), at least, for one eye of the user (See Fig. 2),

transmitting the above signals, at least to one computing facility (See Fig. 2, 50; e.g. a Q-Map generator);

generating interrogation signals (See Fig. 2, Q-Map 50), taking into account the function of the eye resolution (e.g. area of interest), that coding information on the boundaries (See Fig. 3, 12; boundaries of area of interest), at least, in one sector of the video image and/or quality levels (See Fig. 3, 12; area of interest will have higher quality levels), at least, one sector of the video image of at least for one eye, at least, one user and, at least, one group of users' eyes (See Fig. 2 and 3; multiple user eyes were used to determine the various area of interests);

transmitting interrogation signals (e.g. Q-Map) at least to two facilities for the given video signal formation facility, video signal conversion facilities (See Fig. 2, 40) and information displays facilities (See Fig. 2, 10'), in which the interrogation signal is taken into account with respective

forming of video signals (See Fig. 2, 40; e.g. forming the video signals at the encoder 40),

converting of video signals (See Fig. 2, 40; e.g. converting the video into an MPEG video) and

forming of video image (See Fig. 2, 10'; e.g. forming the image on the screen).

Regarding claim 2, according to which the computing facility generates an interrogation signal for a group of users (See Fig. 2, group of users 60), which differs by the fact, that summarizing interrogation signals for the users and/or groups of users taking part of the above group (See Fig. 2, Q-map and Fig. 3, 12; col. 5 lines 58-64; the Q-Map represents a summarization of all the signals from the group of users).

Regarding claim 3, which differs by the fact, that summarizing interrogation signals coding external boundaries (See Fig. 3, 12; the external boundaries of the area of interests) of video image sectors of the similar quality level for each level of video image quality coded in a series of interrogation signals for a group of users (See Fig. 3, 12; the area of interests represents image sectors of similar quality level based on what the group of users identify as an area of interest); in this connection, for each interrogation signal (e.g. from each user) the external boundary of the video image sector of each quality level comprises external boundaries of all video image sectors with indicated quality level (See Fig. 3, 12; col. 6 lines 16-41; the area of interests are defined by external boundaries and will all have a higher quality level).

Regarding claim 4, which differs by the fact, that summarizing interrogation signals for the indicated users' group coding the quality level (See Fig. 3, 12; the area of interests will all have a higher quality level) of video image for each sector of video image coded in a series of interrogation signals for a group of users (See Fig. 3, 12; the area of interests represents image sectors of similar quality level based on what the group of users identify as an area of interest); in this connection, the quality level of each sector of interrogation signal video image for a group of users is taken as having

the highest quality level for the corresponding sector of video image of each interrogation signal of users or a group of users forming a part of the given group (See Fig. 3, 12; col. 5 lines 58-64 and col. 6 lines 16-41; the area of interests are will all have a higher quality level).

Regarding claims 5/4, 5/3, 5/2, 5/1, which differs by the fact, that forming series of video signals of the entire video image of high and low quality level of video image in the facility of video signal formation (See Fig. 2, 70; col. 1 line 66 – col. 2 line 18; the Q factor allows blocks with more activity to have a higher quality), changing boundaries of each sector of video image in the video signal conversion facility (See Fig. 2, 40 and Q-Map; col. 5 lines 58-64; the Q-Map is used to add/change boundaries) except for the sector of video image of the highest quality level (See Fig. 3, 12; e.g. the blocks already defined as an area of interest) such that the internal boundaries (See Fig. 3, 12 and 50; the boundaries of the area of interests are also considered internal boundaries because that are within the video image) of the above sector correspond to the external boundaries of the video signal area (See Fig. 3, 50; the boundaries are also external with respect to the area of interest) with a higher quality level of video image with respect to the sector with variable boundaries (e.g. the boundaries change from frame to frame (e.g. variable) based on the Q-Map for each frame, wherein the boundaries divide the high quality level from the low quality level).

Regarding claim 6, which differs by the fact, that converting a video signal of the entire video image into a series of video signals with quality level of the video image (See Fig. 2, 70; col. 1 line 66 – col. 2 line 18; the original Q factor), with the lower quality

level of the video image of the initial video signal (e.g. the original Q factor of the MPEG standard is considered the lower quality level when compared to the Q-Map).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Keeney et al. (US007027655B2) in view of Griepentrog (US005894327A).

Claims 14/4, 14/3, 14/2, 14/1 contains the limitations of claims 1-4 and is analyzed as previously discussed with respect to those claims.

However, Keeney does not disclose that scanning the screen with an electronic ray in the data display facility using the CRT, transmitting video signals coding boundaries of the sector of extended video image to the electron gun to the facility of sector output control at the entry of the electronic ray into the sector area with the other quality level, to the control facility of the image sector output with control signal delivery to the change of the size of the luminous spot on the CRT screen to the size corresponding to the size of a pixel of video image of video image sector.

Griepentrog discloses a video display system. Griepentrog discloses scanning the screen with an electronic ray (See Fig. 1, red 32, blue, 34, and green 36) in the data display facility using the CRT (See Fig. 1, 30), transmitting video signals (e.g. s1 or s2)

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coding boundaries of the sector of extended video image (e.g. the video signal has boundaries of the video) to the electron gun (See Fig. 1, red 40, blue 42, and green 44) to the facility of sector output control (See Fig. 1, 64) at the entry of the electronic ray into the sector area with the other quality level (e.g. the quality level of the video signal), to the control facility (e.g. control unit 70) of the image sector output with control signal delivery to the change of the size of the luminous spot on the CRT screen to the size corresponding to the size of a pixel of video image of video image sector (See Fig. 1; col. 4 line 20—col. 5 line 19; e.g. the system changes of the size of the luminous spot on the CRT screen to the size corresponding to the size of the video image on the video signal thereby forming an image on the CRT screen). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system disclosed by Keeney to scan the screen with an electronic ray in the data display facility using the CRT, transmit video signals coding boundaries of the sector of extended video image to the electron gun to the facility of sector output control at the entry of the electronic ray into the sector area with the other quality level, to the control facility of the image sector output with control signal delivery to the change of the size of the luminous spot on the CRT screen to the size corresponding to the size of a pixel of video image of video image sector, as taught by Griepentrog, in order to optimize the performance of the display system (See col. 2 lines 19-39).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please take note of Yamaguchi et al. (US006400392B1), Yang (US006490319B1), Ito (US005901249), Stark et al. (US006389169B1), and Nozawa et al. (US006937773B1) for their similar system of providing higher quality for specific areas within a video image.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH G. USTARIS whose telephone number is (571)272-7383. The examiner can normally be reached on M-F 7:30-5 PM; Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher S. Kelley can be reached on 571-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Chris Kelley/
Supervisory Patent Examiner, Art
Unit 2623

/J. G. U./
Examiner, Art Unit 2623
April 7, 2008